Getting married in China: pass the medical first

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Having herself passed the Chinese premarital medical examination, Therese Hesketh considers the benefits and disadvantages of this mandatory form of screening for fitness to wed and to reproduce

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Summary points

Couples in China wishing to marry must first pass the premarital medical examination

The examination's main purpose is to screen for hereditary illness and conditions that may jeopardise parenting abilities, such as psychiatric problems

Despite ethical concerns and its overtones of eugenics, the examination provides opportunities for the diagnosis of untreated diseases and for health education

In China nearly 20 million people get married every year, but first they have to pass the premarital medical examination. As a client of the process myself 10 years ago, I recall that the examination was a minor hurdle in the bureaucratic mire of getting married. Having obtained the certificate of non-impediment from the UK Registry Office and arranged notarisation first by the British Embassy and then the Zhejiang Provincial Notary Public Office, I had to obtain the certificate of approval to get married from my work unit. With these documents the certificate for permission to have a premarital examination was issued.

My main memories of the examination are of detailed questions about illness in first and second degree relatives, being examined fully clothed (it was winter and there was no heating), and being led into a room with other women undergoing the examination for a far from private pelvic examination. Then there was the peeing into a little plastic cup in the very insalubrious public toilet on the street outside before walking back into the hospital amid the crush of outpatients, trying to avoid any spillage. Two days later the certificate of health for marriage was duly awarded.

Nowadays in many parts of China the process has become more sophisticated, though no less bureaucratic. For this article I obtained information about the current status of the examination by visiting 10 maternal and child health hospitals serving populations across the socioeconomic range in four provinces: Zhejiang, Jiangxi, Yunnan, and Shaanxi. In each hospital I observed the premarital medical examination process, examined records, and held discussions with health workers and officials.

What the premarital medical examination entails

The process consists of the completion by a doctor of a standard checklist. Inquiry is made about hereditary illness and problems that might jeopardise parenting abilities, such as learning disorders and psychiatric problems. The physical examination includes the obvious—height, weight, and blood pressure—and the rather less obvious—colour and distribution of hair. Special (perhaps obsessive) emphasis is given to secondary sexual characteristics. In men these are feminisation of breasts, pubic hair (present, absent, or sparse), phimosis, size of testes and epididymis, presence of varicocoeles, and so on. In women the pelvic examination is supposed to include palpation of the uterus and ovaries. Blood tests usually include a full blood count, liver function tests, and testing for hepatitis B surface antigen. Laboratory tests are carried out for gonococcus and sometimes trichomonas and chlamydia, depending on the technology available. Sometimes a chest radiograph is taken and abdominal ultrasonography performed, though the purpose of the latter is unclear.

After the examination, couples receive premarital health instruction. This usually comprises a video about producing healthy children and how not to have more than the allotted number. Films vary. Some have pictures of children with grotesque abnormalities, as an apparent warning to do everything advised to ensure against such disaster. Films are sometimes followed by a multiple choice test to check that the couple were paying attention.

Depending on the results of the examination, couples fall into one of three categories. Couples who meet the requirements are issued with the certificate of health for marriage. In other cases the marriage must be postponed to allow for some form of treatment or counselling. In the premarital medical examination records I studied, between 1% and 10% of couples fell in this category, and criteria varied locally. Examples included active hepatitis (with abnormal liver function), treatment for tuberculosis or a sexually transmitted infection, or conditions such as severe phimosis. In some couples the postponement is long term or indefinite, though the actual criteria for this are unclear. Finally, a few couples must agree to permanent contraception. This generally applies to people with severe psychiatric disease or who are of low intelligence and thus would be regarded as incapable of raising children safely. In the hospitals I visited, less than 0.03% of couples fell into this category.

Ethical considerations

It is easy to criticise the premarital medical examination on grounds of human rights, control, oppression, and eugenics. But many countries have recognised the usefulness of screening couples before they embark on their reproductive lives. Over time, premarital screening has been used for a range of conditions: syphilis, rubella immunity, haemoglobinopathies, Tay-Sachs disease,

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Modern Chinese weddings are no longer as elaborate as they used to be, and couples wishing to marry must first pass an examination

hepatitis B, and, most recently, HIV. Taiwan, Turkey, Egypt, Spain, Portugal, Italy, and Brazil all have a form of premarital medical examination. From a public health point of view it is not hard to justify such an examination: reasons include diagnosis and treatment of unrecognised diseases, reduced transmission of disease to partners and offspring, a forum for health education, and a convenient means of collecting information on the health of the population for epidemiological and planning purposes. In China the opportunity to reduce transmission of hepatitis B is particularly important, because the average prevalence of hepatitis B surface antigen is 10%.[1] The reported rate of transmission of the antigen from carriers to susceptible partners within two years of marriage is around 65%.[2] Immunisation of partners after the premarital medical examination has been shown to reduce rates of transmission by around 89%.[3]

Voluntary counselling and testing for HIV at the examination has been recommended as one means of preventing spread of the infection in a country where an estimated 95% or more of HIV positive people don't know their status. (The number of reported cases of HIV infection was 30 746 at the end of 2001, but the actual number is estimated to be around a million.[4]) A pilot project is currently trying to resolve concerns about quality of feedback, access to treatment, and issues of confidentiality raised by introducing voluntary HIV testing at the examination.

The major argument proffered for the examination is its use in preventing the transmission of genetic disorders—particularly desirable in a population where autosomal recessive disorders, such as the thalassaemias, sickle cell disease, and Tay-Sachs disease, are relatively common.[5] The prevalence in southern China of genes for α and β thalassaemia is high, and some examination centres carry out initial screening by measuring red cell mean corpuscular volume to identify carriers.[6 7] In some Mediterranean countries premarital screening for haemoglobinopathies is well established. A programme in Denizli, Turkey, found that in 15 of the 9902 couples screened, both partners were carriers of the β thalassaemia trait. After genetic counselling, two of the couples cancelled their marriages, and other couples sought prenatal diagnosis.[8]

Benefits and drawbacks

Opportunities for health education have been brought into sharp focus by a recent influential study showing that giving women folic acid from the premarital medical examination to the end of the first trimester reduced the number of neural tube defects by 85% in a high risk area in China and 41% in a low risk area.[9] In a few areas, health education given as part of the premarital medical examination now includes information on HIV and sexually transmitted diseases, but the educational opportunities could be exploited further. For example, given that two thirds of Chinese men smoke, and that many children are introduced to smoking by their fathers, the examination would be an ideal forum to emphasise the dangers of active and passive smoking.[10 11]

But of course the examination has a negative side. Inherent in any screening programme is the problem of predictive value and accuracy. Also, couples have to pay for the examination. The fee is reasonable for most couples but can be prohibitive for very poor people. Truncated (very cheap) versions of the examination exist in poor areas, or marriages simply take place without it. Yunnan Health Bureau officials estimate the uptake in the more remote areas of the province to be about 50%.

But most important is the fundamental human right to marry and reproduce, and the premarital medical examination undermines that right. The officials and health workers in the 10 hospitals I visited responded fairly consistently when questioned about this: very few couples are advised to undergo long term contraception, and even then it is impossible to enforce. In seven of the 10 counties I studied there

Blood being taken from a couple at the premarital examination

hadn't been a prohibition to reproduce for over five years. But China unashamedly espouses the need to improve the quality of the population. Eugenics, perhaps—but the attitude is regarded as in tune with the preferences of the Chinese people, who readily undergo tests to guarantee a "normal" baby. This is perhaps not so surprising given the financial burden created by a child with an illness or a disability in a fee for service medical system. A study in Taiwan, which has a voluntary premarital examination, showed that 41% of the people who underwent it did so primarily because they were afraid of genetic disease.[12]

But perhaps most worrying are the implications for the future. The diagnostic techniques used now are relatively crude. As the technology for genetic testing improves, and as more people can afford it, the danger is that couples might reject an "unhealthy" partner on the basis of a predisposition to certain disorders. It remains to be seen whether this becomes a reality.

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A memorable patient

An aunt without health insurance

Although she was only 44 years old, Mamdogo ("aunt" in Swahili) walked slowly towards us at Bergen Airport. She was definitely not the same Mamdogo I had met a few months earlier in Singida in central Tanzania. My wife, who is of Tanzanian origin, had insisted that we should invite her favourite Mamdogo to our home in Norway. I had agreed, remembering the happy times we had spent with her in Tanzania.

But, instead of going to the fjords and other attractions, Mamdogo was now lying on the sofa in our flat day after day. I knew that she had suffered from kanda ya jeshi (the "military belt," Swahili slang for herpes zoster) a few years back, but I was surprised how fast she had deteriorated. I realised that her cough might be due to tuberculosis, and this was confirmed by sputum culture and polymerase chain reaction at the University Hospital. Mamdogo was not surprised when I disclosed that the result of her HIV test was positive.

In the next three weeks her condition worsened, despite the antituberculous drugs she received, which I directly observed at home. In the end I had no choice but to refer her to the university hospital. That is when the realities of health economics surfaced. In the admission room, nurses and administrative officers, realising that our patient was not native Norwegian, politely asked about the details of her health insurance. Although Mamdogo was fortunate enough to have fixed employment, her salary of about £50 a month hardly allowed her to consider a luxury such as health insurance.

Eventually, the formalities were disregarded and she was admitted, mainly thanks to the kind intervention of my colleagues in the department of internal medicine. Despite continued treatment for tuberculosis (the bacteria isolated were sensitive to all first line drugs), she continued to deteriorate. Possibly, the advanced stage of the underlying disease (her CD4 count was 66 cells/μl and HIV RNA at $>75\,000$ copies/ml) and the widespread Kaposi's sarcomas delayed her recovery. After a few weeks in hospital, my colleagues decided to start full antiretroviral treatment, ignoring the fact that, as a foreign citizen with no health insurance, she was not entitled to receive this treatment free of charge. Knowing that the whole of my research scholarship would not pay for this treatment, let alone the hospital stay, I remained silent in the discussion.

Although the treatment seemed to help her, she was in an appalling condition when she was discharged, and I escorted her by plane back to Tanzania. I was going to Dar es Salaam anyway for data collection for my research project, but what was she returning to? She seemed close to collapse several times in the transit hall in Amsterdam, but eventually she made the trip all the way.

She had been given three weeks of antiretroviral treatment by the hospital in Bergen. Subsequently her condition gradually worsened, with cachexia and disseminated Kaposi's sarcomas, until she died four months later.

When I think back to my wife's favourite Mamdogo, I am struck by two thoughts. Firstly, the heroism shown by doctors in everyday medicine—in this case my colleagues in the department of medicine, who did their best to help Mamdogo even if it meant circumventing administrative regulations. Secondly, this experience showed me in a practical way the harshness of the gross inequity in rights to health in the world. If we, the medical experts in the world, want to remain with even a minimum of self respect, we have to find practical solutions to distribute health more equally in the world.

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We welcome articles of up to 600 words on topics such as *A memorable patient*, *A paper that changed my practice*, *My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.